# Installing vWLC and Host Linux with SUSE Linux

This chapter contains the following topics:



## Installing SUSE Linux

Download SLEs 12 - https://www.suse.com. (You must create a login)

- eth0—for uplink (service-port of WLC); no IP address is required to this interface but should be connected and up.
- eth1—for WLC Management interface; no IP address is required to this interface but should be connected and up.
- eth2 or 3— for Linux accessibility; provide IP address to this interface, so that there is a network connectivity for Linux box and internet from it.

**Note** Before working on any other package or KVM/vswitch, check the Linux kernel. Make sure the kernel version is 3.12.36-38 or above.

If the kernel version is not 3.12.36-38 or above, upgrade it by performing the following steps:

1. Install SLES 12 on the server.
2. Once the server comes up, copy the kernel rpm to the machine.
3. On a terminal, execute **rpm --ivh <kernel>.rpm**.

   The rpm is installed and would take some time to configure. You need not do anything else.

4 Reboot the machine once the installation is complete, and verify that the latest kernel is loaded using **uname --a**.

# Install KVM and Supporting packages

Install KVM and supporting packages using the following commands:

```
zipper install openvswitch openvswitch-switch
zypper install kvm libvirt libvirt-python qemu virt-manager
```

# Enabing SSH

Execute the following commands:

```
systemctl enable sshd.service → enabling sshd daemon
systemctl start sshd.service → starting ssh
netstat -an | grep :22 → to see if port# 22 is listening
```

# Network Configuration

### Creating a Bridge and Mapping it to Port (Ethernet Interface)

```
ovs-vsctl add-br ov_10nw
ovs-vsctl add-port ov_10nw eth0
ovs-vsctl add-br ov_9nw
ovs-vsctl add-port ov_9nw eth1
```

The bridge name must be the same as created in the XML file.

### Viewing the Bridge Mapping

```
ovs-vsctl show
```

**Example**

```
linux-f8es:~ # ovs-vsctl show
51600b63-b508-45b0-9d0c-9f74036114c5
    Bridge "ov_9nw"
        Port "ov_9nw"
            Interface "ov_9nw"
                type: internal
        Port "eth1"
            Interface "eth1"
    Bridge "ov_10nw"
        Port "ov_10nw"
            Interface "ov_10nw"
                type: internal
        Port "eth0"
            Interface "eth0"
    ovs_version: "2.1.2"
```

### Creating XML Files

Create two XML files; one for service-nw (10nw) and the other for management (9nw).

**Example**

```
10nw_eth0_ov.xml
9nw_eth1_ov.xml
```

Both XML files contain VLAN information based on the network, or based on what you want to allow.

**Example: To Allow All VLANs**

```
<network>
  <name>10-nw</name>
  <forward mode='bridge'/>
  <bridge name='ov_10nw'/>
  <virtualport type='openvswitch'/>
  <portgroup name='vlan-any' default='yes'>
  </portgroup>
</network>
```

The bridge name must be the same as created during "ovs-vsctl" command.

### Starting Open vSwitch

```
service openvswitch-switch start
```

### Configuring Open vSwitch to Start When the System Boots

```
chkconfig openvswitch-switch on
```

**Note** vSwitch must be started before creating the bridge using above command.

### Starting libvirt

```
service libvirtd restart
```

### Allowing CDP Packets to Forward from Open vSwitch

```
ovs-vsctl set bridge ov_9nw other-config:forward-bpdu=true
```

### Viewing the Virtual Network

```
virsh net-list --all
```

### Deleting the Default Network

```
virsh net-undefine default
```

### Creating Virtual Network

```
virsh net-define <xml_file_name>
```

### Viewing the Virtual Network

```
virsh net-list --all
```

### Starting the Virtual Network

```
virsh net-start <network_name_that is in the list>
```

**Example**

```
linux-f8es:~ # virsh net-list --all
 Name                 State      Autostart     Persistent
```

```
-----------------------------------------------------------
 default              inactive   no            yes
linux-f8es:~ # virsh net-undefine default
Network default has been undefined
linux-f8es:~ # virsh net-define 10nw_eth0_ov.xml
Network 10-nw defined from 10nw_eth0_ov.xml
linux-f8es:~ # virsh net-define 9nw_eth1_ov.xml
Network 9-nw defined from 9nw_eth1_ov.xml
linux-f8es:~ # virsh net-list --all
 Name                 State      Autostart     Persistent
-----------------------------------------------------------
 10-nw                inactive   no            yes
 9-nw                 inactive   no            yes
linux-f8es:~ # virsh net-start 10-nw
Network 10-nw started
linux-f8es:~ #
linux-f8es:~ # virsh net-start 9-nw
Network 9-nw started
linux-f8es:~ # virsh net-list --all
 Name                 State      Autostart     Persistent
-----------------------------------------------------------
 10-nw                active     no            yes
 9-nw                 active     no            yes
```

# Installing vWLC Using VMM

To install vWLC using VMM in SUSE Linux, perform the following steps:

**Step 1** Similar to Fedora, go to the terminal and type **virt-manager**.
The Virt Manager (VMM) pop-up appears.

**Step 2** Follow the steps covered in Fedora installation using VMM.